



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.       | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------------|------------------|
| 10/537,639   | 06/06/2005  | Norbert Rolff        | LYBZ 2 00093              | 6347             |
| 27885  | 7590        | 02/11/2008           | EXAMINER                  |                  |
| FAY SHARPE LLP<br>1100 SUPERIOR AVENUE, SEVENTH FLOOR<br>CLEVELAND, OH 44114 |             |                      | DOERRLER, WILLIAM CHARLES |                  |
|  |             | ART UNIT             | PAPER NUMBER              |                  |
|  |             | 3744                 |                           |                  |
|  |             | MAIL DATE            | DELIVERY MODE             |                  |
|  |             | 02/11/2008           | PAPER                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/537,639             | ROLFF, NORBERT      |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | William C. Doerrler    | 3744                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 04 January 2008.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 13 and 16-18 is/are allowed.  
 6) Claim(s) 1,2,14 and 15 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 06 June 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

## DETAILED ACTION

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,4-7,10-12,14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Young (4,545,738).

Young discloses a compressor with gas bearings to reduce wear between a piston and a cylinder. Reservoir 106 is seen as an accumulator for the gas within the cylinder. 102 and 104 represent high pressure gas lines which are cylindrical. Line 38 of column 2 states that the piston's position can be used to control the gas flow to the bearings. In regard to claim 2, see circular groove 110. In regard to claim 6, see figure 10 which shows multiple fluid lines in the bearings. In regard to claim 7, see column 8 lines 30-50 which discuss how the device maintains it's rotational position. In regard to claim 12, line 110 inputs gas from the cylinder.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,4,6,7,10-12,14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (4,545,738) in view of Beale et al (6,065,637).

Young discloses a compressor with gas bearings to reduce wear between a piston and a cylinder. Reservoir 106 is seen as an accumulator for the gas within the cylinder. 102 and 104 represent high pressure gas lines which are cylindrical. Line 38 of column 2 states that the piston's position can be used to control the gas flow to the bearings. In regard to claim 2, see circular groove 110. In regard to claim 6, see figure 10 which shows multiple fluid lines in the bearings. In regard to claim 7, see column 8 lines 30-50 which discuss how the device maintains it's rotational position. In regard to claim 12, line 110 inputs gas from the cylinder. Young does not disclose the use of gas bearing inlets in the cylinder wall. Beale et al show this feature to be old in the compressor art with air bearings 813 and 831 in figures 3 and 4, respectively. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention from the teaching of Beale et al to modify the compressor with gas bearings of Young by placing gas outlets on the cylinder walls to provide a stable, stationary air inlet.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Young in view of Beale et al as applied to claims 1,2,4,6,7,10-12,14 and 15 above and further in view of Claudet et al (4,840,032).

Young, as modified, discloses applicant's basic inventive concept, a compressor with a piston having gas bearings with a gas accumulator located in the piston with gas outlets

between the accumulator and the cylinder and having gas inlet controlled by the position of the piston within the cylinder, substantially as claimed with the exception of gas lines in the cylinder. Claudet et al, in figures 8a and 8b, show this feature to be old in the gas circulating piston art. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention from the teaching of Claudet et al to modify the compressor of Young by using gas passages in the cylinder to ensure proper gas motion in the device and to limit the amount of passages through the piston.

Claims 5,8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young in view of Beale et al as applied to claims 1,2,4,6,7,10-12,14 and 15 above, and further in view of Heinzl et al (4,735,862).

Young, as modified, discloses applicant's basic inventive concept, a piston device with gas bearings, substantially as claimed with the exception of using sintered nozzles to deliver the gas into the bearings. Heinzl et al show this feature to be old in the gas bearing art (see the abstract). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention from the teaching of Heinzl to modify the device of Young by using sintered nozzles for the gas bearings to apply the gas evenly over the bearing surface.

#### ***Allowable Subject Matter***

Claims 13 and 16-18 are allowed.

#### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Doerrler whose telephone number is (571) 272-4807. The examiner can normally be reached on Monday-Friday 6:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

William C Doerrler  
Primary Examiner  
Art Unit 3744

WCD

/William C Doerrler/  
Primary Examiner, Art Unit 3744